

### **REMARKS**

Claims 1-6, 8-38, and 40-49 are now pending, after amendments, in the application. Claims 7 and 39 are canceled. Claims 1-3, 8, 9, 14-17, 23-25, 29-32, 38, 40-44, and 49 are currently amended in the application.

Applicants have carefully studied the outstanding Final Official Action. The present response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

#### **Claim Rejections 35 U.S.C. §101**

The Examiner rejected claims 1-6, 8-38, and 40-49 under 35 U.S.C. §101 directed to non-statutory subject matter. The Examiner argued that none of the claims is limited to practical applications in the technological arts.

The Examiner furthermore argued that claims 1-6, 8-38, and 40-49 does not produce a useful, concrete and tangible result. Examiner specifically argued that the term "user input", in is defined broadly, and therefore the invention claims discloses only "pure mathematical algorithm" in the formation of the manipulation of a set of abstract "user inputs".

In addition, the Examiner argued that the term "relate to real life" is not limited to effecting control of a physical system and "can be a mere calculation that relates to control and yet to be effected".

The amended claims 1-3, 8, 9, 14-17, 23-25, 29-32, 38, 40-44, and 49 now define an apparatus and a method for automatic data mining and automatic descision making. The apparatus, according to the amended claims is, in a preferred embodiment of the invention, analyzing user inputs which are digitized user inputs that represents elements of real life system behavior or process. The apparatus calculate its output, using various modules and automatic procedures such as "object definer software modules", "relationship definer software modules", "quantifier software modules" etc. The apparatus, based upon such calculations, produce a "computerized quantifiable model of a real life system". Such model of a real life system is used to produce automatic decision outputs to the real life system, to thereby affect said real life system.

By doing so, the apparatus is now comprises a practical application and assigns a useful, concrete and tangible result that has effecting control on a physical system.

Therefore, the amended claims are now limited to practical applications in the technological arts for three, major reasons:

- 1) The system inputs are digitized user inputs that represents elements of real life system behavior or process and can be arrange in manner they reflect a real life process.
- 2) The electronic structure of the modal according to preferred embodiment of the present invention is comprised from cells which are capable to receive digitized inputs and to generate outputs. In addition, these cells are electronically associated one with another, comprising a quantitative model which is based on inputs from real life systems.
- 3) The system output has an affect on real life system.

Each one of these reasons individually, backed by the following examples, is enough overcome the exclusions to patentability, and moreover, the combination thereof.

Example of the user inputs that represents elements of real life system and outputs for the computerized quantifiable model of a real life system which take affect in real life systems can be found in invention description. For example FIG. 5, as described on paragraphs 207 and 208 teaches one preferred embodiment of the present invention: "a simplified diagram showing a knowledge tree map for building a personalized credit score". In this example, the digitized user input reflect elements of real life system behavior ("salary", "Age", "Education", "Stock", "Saving" etc.) and the automatic procedure according to the present invention generates a useful, concrete and tangible result, which takes affect in the real life system, in the formation of a decision to grant a loan according to the outcome of the client's credit score in the procedure [0209]. It is clear that this result has an effecting control on a physical system which is the bank.

Another Example is found in FIG. 14, paragraphs 282 to 291 which exemplify how the knowledge tree "serves as a tool to analyze an individual patient". In this example, the digitized user inputs reflect elements of real life system behavior ("type of hepatic dysfunction", "serum level of the drug", "condition of the liver before the drug was given", "history of liver dysfunction" etc.) and used to estimate the "potential for

liver toxicity at the patient level". The estimation or analysis of this process may lead to the modification of a certain dosage to a patient or for determining the exact dosing method for a specific patient. Therefore, it is clear that the process in this example also assigns a concrete and tangible result which has an affect on real life and has an effecting control on a physical system which is the medical care system.

When considering the patentability of this invention in the light of these examples, it should be mentioned that according to MPEP Section 2106.IV.B 2.b a claim needs, in order to be statutory "a result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan" (See *Diamond v. Diehr*, 450 U.S. at 183-84, 209 USPQ at 6).

More specifically, the MPEP states at the same paragraph that "A claimed process is clearly statutory if it results in a physical transformation outside the computer, i.e., falls into one or both of the following specific categories ("Safe Harbors"). One of the Safe Harbor provisions that applicants are entitled to is "Independent Physical Acts "(Post-Computer Process Activity):

*"A process is statutory if it requires physical acts to be performed outside the computer independent of and following the steps to be performed by a programmed computer, where those acts involve the manipulation of tangible physical objects and result in the object having a different physical attribute or structure. *Diamond v. Diehr*, 450 U.S. at 187, 209 USPQ at 8. Thus, if a process claim includes one or more post-computer process steps that result in a physical transformation outside the computer (beyond merely conveying the direct result of the computer operation), the claim is clearly statutory."*

It is clear from the examples above mentioned that the process disclosed in the invention result in a physical transformation outside the apparatus like the decision to grant a loan and the modification of a certain dosage to a patient or for determining the exact dosing method for a specific patient beyond merely conveying the direct result of the apparatus operation.

Another of Safe harbors that the present invention is entitled to "Manipulation of Data Representing Physical Objects or Activities" (Pre-Computer Process Activity):

*"Another statutory process is one that requires the measurements of physical objects or activities to be transformed outside of the computer into computer data (In re Gelnovatch, 595 F.2d 32, 41 n.7, 201 USPQ 136, 145 n.7 (CCPA 1979) (data-gathering step did not measure physical phenomenon); Arrhythmia, 958 F.2d at 1056, 22 USPQ2d at 1036), where the data comprises signals corresponding to physical objects or activities external to the computer system, and where the process causes a physical transformation of the signals which are intangible representations of the physical objects or activities. Schrader, 22 F.3d at 294, 30 USPQ2d at 1459 citing with approval Arrhythmia, 958 F.2d at 1058-59, 22 USPQ2d at 1037-38; Abele, 684 F.2d at 909, 214 USPQ at 688; In re Taner, 681 F.2d 787, 790, 214 USPQ 678, 681 (CCPA 1982)."*

The examples above clearly states how physical objects and activities like "salary", "Age", "Education" or "type of hepatic dysfunction ", "serum level of the drug" are transformed outside of the apparatus into computer data, enabling the apparatus with the ability to calculate output, using various modules and automatic procedures.

Consequently, the aforementioned apparatus and method now comprises a practical application and assigns a useful, concrete and tangible result comprises output data which is used to allocate data communication capacity resources.

It is therefore submitted that all present independent claims are limited to practical applications in the technological arts, and are believed to be allowable.

The remaining claims are believed to be allowable as being dependent on allowable main claims.

All of the matters raised by the Examiner have been dealt with and are believed to have been overcome. In view of the foregoing, it is respectfully submitted that all the claims now pending in the application are allowable over the cited references. An early Notice of Allowance is therefore respectfully requested.

Respectfully submitted,



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